

July 21, 1999

Ms. Donna M. Caton, Chief Clerk  
Illinois Commerce Commission  
527 East Capitol Avenue  
P. O. Box 19280  
Springfield, Illinois 62794-9280

Re: Revised 1998 General Assessment of Electric Service

Dear Ms. Canton:

Attached for filing is AmerenUE's revised "General Assessment of Electric Service" for calendar year 1998.

An additional copy of this filing is enclosed. Please date stamp and return it to me to verify receipt of this filing by the Chief Clerk's Office of the Illinois Commerce Commission.

Sincerely,

Michael S. Gillson  
Manager - Illinois District

# **AmerenUE**

## **Revised 1998**

### **GENERAL ASSESSMENT OF ELECTRIC SERVICE**

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**July 1999**

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## **I. Introduction**

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AmerenUE presents this 1998 General Assessment of Electric Reliability to the Illinois Commerce Commission in accordance with Section 411.160 of the 83 Illinois Administrative Code 411.

AmerenUE outage tracking system was not capable of tracking controllable interruptions for 1998. We will be able to meet this requirement in 1999.

## **II. Customer Satisfaction Survey**

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Generally speaking, our customers considered AmerenUE to be a good provider of reliable electric service at a cost comparable to other electric service providers as evidenced by our annual customer survey. The results of this survey are detailed in Attachment A.

[411.120 b) 3) G) v)]

## **III. Distribution and Transmission Facilities Financial Information**

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- A. Nearly all Distribution and Transmission expenditures have an impact towards maintaining or improving reliability. AmerenUE plans to make the following expenditures this year and the next 3 years, 1999-2002.

	1999	2000	2001	2002
Distribution	\$8,387,000	\$8,387,000	\$8,420,000	\$8,468,000
Transmission	\$6,612,000	\$5,956,000	\$7,771,000	\$9,821,000
Expenditures are in constant 1998 dollars (assuming a 2.5% inflation rate)				

[411.120 b) 3) A)]

These values are also included on Attachment B where these values are compared to our Distribution and Transmission Plant investment and average remaining depreciation lives.

[411.120 b) 3) G) iii) & iv)]

Included as Attachment C are the relevant characteristics of each operating area and a qualitative assessment of the equipment and facilities in each operating area.

[411.120 b) 3) G) i)]

B. There are numerous operating practices performed at AmerenUE which are performed on a periodic basis that do have direct bearing upon reliability. Nearly all of these activities are performed to allow AmerenUE to identify problems and potentially prevent customer interruptions from occurring. These practices will not be identified as specific reliability projects. Some of the more important ones are noted below:

1. Periodic Substation Inspections
2. Infra-red Scanning Substations on Periodic Basis
3. Substation and Relay Equipment Maintenance and Testing on Periodic Basis
4. Line Inspections on a Periodic Basis
5. Installation of Animal Protective Guards in Susceptible Areas
6. Periodic Review of System Reliability and System Loadings

C. Specific Reliability Projects

[411.120 b) 3) A) iii) iv) viii)]

AmerenUE does consider the effects on customers and the cost of reducing the number of planned and unplanned interruptions in our reliability projects.

1. Aerial Sub-transmission Infrared Inspection - The present plan is to perform an aerial inspection of the sub-transmission system on a 3-year cycle. This project enables AmerenUE to identify and fix problems (loose connections, weak splices, air break switches, etc.) before any interruptions might actually occur.
2. Worst Performing Feeders - From outage information, the worst performing feeders are identified annually. The worst performing feeders list is developed based on the previous year's historical performance and cannot be specifically projected into the future. There is a formalized reporting process to ensure that proper steps are taken in the problem analysis and remediation identification processes. The evaluation criteria for determining these are not strictly determined from CAIFI, SAIDI, or CAIDI.
3. Lightning Protection - Identification of where lightning protection enhancement projects can provide major benefits will continue. The lightning protection projects list is developed based on the previous 3-year's historical performance and recommendations by the district.
4. Pole Inspection and Treatment - Data collected in the first phase of the sub-transmission and distribution backbone inspection will be analyzed to evaluate such things as percent of poles that failed test, percent reinforcement, etc. By performing this inspection, we will be able to identify and replace or repair poles that might otherwise fail and result in unplanned customer interruptions. This is an on-going reliability project.

5. Annual Tree Trimming – Trimming distribution and transmission circuits will continue on a periodic cycle. The crews use “natural” tree trimming methods that are intended to direct future tree growth away from power lines.

D. Unresolved Reliability Complaints

AmerenUE has no unresolved reliability complaints from other entities.

[ 411.120 b) 3) A) v) ]

**IV. Interruption Information**

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A. Number and Duration of Planned and Unplanned Interruptions

Below is the data associated with AmerenUE Planned and Unplanned Interruptions.

The impact on customers of planned and unplanned interruptions are inconveniences to the customer since they have no electricity during the interruption.

	# of Interruptions	Duration
Planned Interruptions	255	476.8 hours
Unplanned Interruptions	3,147	20,864.7 hours

[ 411.120 b) 3) C) ]

In 1998, several major storms occurred causing most of the customer interruptions. The June 14, 1998 thunderstorm caused massive tree and wind damage causing about 31,000 customers to be without power. The July 22, 1998 thunderstorm caused outages to about 23,000 customers.

**AmerenUE Revised 1998 Reliability Assessment****B. Number and Causes of Controllable Interruptions**

<b>CAUSES</b>	<b># OF INTER- RUPTIONS</b>	<b>% TOTAL INTER- RUPTIONS</b>	<b>CUSTOMER MINUTES OUT</b>	<b>% CUSTOMER MINUTES OUT</b>
Other Alternative Retail Electric Supplier				
Jurisdictional Entity / Contractor Personnel-Errors				
Customer				
Public				
Weather Related				
Animal Related				
Tree Related				
Overhead Equipment Related				
Underground Equipment Related				
Intentional				
Transmission and Substation Related				
Unknown				
Other				

AmerenUE was unable to track controllable interruptions for 1998.

[ 411.120 b) 3) D ) ]

**C. Number of Interruptions Due to Other Electric Supplier**

AmerenUE had no customer service interruptions due to another electric supplier.

[ 411.120 b) 3) E ) ]

**D. Comparison of Interruption Frequency and Duration for Customers with Alternative Electric Supplier**

As of December 31, 1998, all of AmerenUE customers purchased electric energy from AmerenUE. Therefore, this year it is not applicable to compare interruption frequency and duration between customers buying electric power from AmerenUE versus an alternative electric supplier.

[ 411.120 b) 3) F ) ]

**V. Service Reliability Information – Company Wide**

- A. AmerenUE experienced the following SAIFI, CAIDI and CAIFI reliability indices for 1998:

DISTRICT	SAIFI	CAIDI	CAIFI
ILLINOIS	2.23	518.84 minutes	N/A

CAIFI index is not available for 1998.

[411.120 b) 3) H)]

In 1998, several major storms occurred causing most of the customer interruptions. The June 14, 1998 thunderstorm caused massive tree and wind damage leaving about 31,000 customers to be without power. The July 22, 1998 thunderstorm caused outages to about 23,000 customers.

- B. Below is a summary of the interruptions by Cause Category experienced by AmerenUE for 1998:

CAUSES	# OF INTER- RUPTIONS	% TOTAL INTER- RUPTIONS	CUSTOMER MINUTES OUT	% CUSTOMER MINUTES OUT
Other Alternative Retail Electric Supplier	0	0	0	0
Jurisdictional Entity / Contractor Personnel-Errors	64	1.9	56492	0.1
Customer	68	2.0	53544	0.1
Public	68	2.0	194780	0.3
Weather Related	1413	41.5	66557653	91.2
Animal Related	8	0.2	18631	0.1
Tree Related	312	9.2	1593334	2.2
Overhead Equipment Related	771	22.7	3550653	4.9
Underground Equipment Related	23	0.7	168573	0.2
Intentional	208	6.1	222959	0.3
Transmission and Substation Related	0	0.0	0	0.0
Unknown	380	11.2	467674	0.6
Other	87	2.6	86055	0.1

[411.120 b) 3) G) ii)]

## AmerenUE Revised 1998 Reliability Assessment

c. AmerenUE received no ICC service reliability complaints for 1998.

[411.120 b) 3) G) vi)]

### VI. Service Reliability Information – Operating Areas

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A. AmerenUE operating area's qualitative characteristics are included as Attachment C.

B. Listed below are AmerenUE worst-performing distribution circuits when ranked by SAIFI , CAIDI, and CAIFI (not available for 1998) indices:

Feeder circuit	SAIFI
342-003	6.13
328-002	5.7

Feeder circuit	CAIDI
305-002	3254
330-003	3153

Feeder circuit	CAIFI
N/A	N/A
N/A	N/A

[411.120 b) 3) I)]



## VII. Operating & Maintenance History of Worst-Performing Circuits with Action Plans

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[411.120 b) 3) J)]

### Feeder circuit 342-003

#### Outage History

There were a total of 36 outages that occurred on this distribution feeder. Sixteen of the outages were caused by weather and ten of the outages were caused by tree related contacts. Six of the outages were caused by overhead equipment failures due to customer house fire, fuse operated, fuse operated, wire down, transformer failed and wire down.

#### Actions Taken or Planned

For the overhead equipment failures, the wires were repaired, the fuse size was increased, and the failed transformer was replaced.

Currently, all trees along all circuits of this substation are being trimmed. Tree trimming should be complete during the summer of 1999.

Approximate cost of actions: \$61,000.

### Feeder circuit 328-002

#### Outage History

There were a total of 29 outages that occurred on this distribution feeder. Eight of the outages were caused by weather and nine of the outages were caused by tree related contacts. Three outages were pre-arranged maintenance outages. Eight of the outages were caused by overhead equipment failures due to fuse operated after wire down, cross-arm broken, wire down, wires too low, fuse operated, wire down, underground cable failure, and a transformer failure.

#### Actions Taken or Planned

For the overhead equipment failures, the broken cross-arm was replaced, wires were raised, underground cable was repaired and the failed transformer was replaced.

Problem tree related outage areas will be identified and problem spot tree trimming will be performed in 1999. All trees along all circuits of this substation are to be trimmed in late 1999 or early 2000. Additional circuit sectionalizing and tap fusing will be installed during 1999 to reduce the number of customers affected by outages.

Approximate cost of actions: \$ 121,000.

## **Feeder circuit 305-002**

### Outage History

There were a total of 4 outages that occurred on this distribution feeder. The June 14 storm caused one outage of 56 hours and 56 minutes to all customers on this feeder, and an additional outage of 2 hours and 46 minutes to one customer on this feeder. One outage of 48 minutes to one customer was due to high winds. The other outage of 28 minutes to one customer was due to disconnect switch failure.

### Actions Taken or Planned

After the June 14 storm, circuit was patrolled for tree problems and problem spot tree trimming was performed. Excluding the June 14 storm, there were only 2 outages to 2 customers for 1998 for a total of 1 hour 16 minutes. No additional actions are planned.

Approximate cost of actions: \$1,000.

## **Feeder circuit 330-003**

### Outage History

There were a total of 3 outages that occurred on this distribution feeder. The June 14 storm caused one outage of 53 hours and 32 minutes to all customers on this feeder. One outage of 1 hour 29 minutes to one customer was due to transformer trip. One outage of 19 minutes to one customer was due to an failed fuse switch..

### Actions Taken or Planned

After the June 14 storm, circuit was patrolled for tree problems and problem spot tree trimming was performed. Excluding the June 14 storm, there were only 2 outages to 2 customers for 1998 for a total of 1 hour 48 minutes. No additional actions are planned.

Approximate cost of actions: \$500.

## **VIII. Company Contact**

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For further information regarding this report, contact:

Michael S. Gillson  
District Manager  
AmerenUE  
500 E. Broadway  
East St. Louis, Illinois 62201

## AmerenUE Revised 1998 Reliability Assessment

### Attachment A – Customer Satisfaction Survey

Commercial & Industrial (C&I) AmerenUE Illinois Customers – 35 customers surveyed  
Residential AmerenUE Illinois Customers – 165 customers surveyed

I would like to know how you rate your electric company overall on a scale of “1” to “7”, where “1” means “very unfavorable” and “7” means “very favorable.” The more favorable you generally feel toward your electric company, the higher the number you would give.

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	0%	0%	3%	6%	32%	36%	19%	3%
<b>Residential</b>	2%	5%	3%	8%	26%	17%	38%	1%

Based on what you have seen or heard about the price of electricity around the country, how does the price you pay for electricity compare to what other pay?

	<b>C&amp;I</b>	<b>Residential</b>
1. Much more expensive than others	0%	5%
2. Somewhat more expensive than others	19%	14%
3. About the same price as others	25%	30%
4. Somewhat less expensive than others	13%	23%
5. Much less expensive than others	0%	3%
6. (Don't know)	43%	25%

Now I'm going to read you a list of things that people may expect from their electric company. As I mention each thing, I'd like you to tell me how well you think your electric company performs in this area using a scale of “1” to “7,” where “1” is “poor” and “7” is “excellent.”

Employees who are understanding and courteous, and help customers when they have questions or problems.

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	0%	0%	3%	17%	28%	30%	19%	3%
<b>Residential</b>	5%	2%	3%	8%	16%	26%	31%	9%

Providing reliable, high quality service without frequent interruptions.

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	3%	0%	3%	6%	15%	36%	37%	0%
<b>Residential</b>	1%	1%	4%	6%	16%	23%	46%	2%

Restoring service quickly after a service interruption

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	3%	0%	3%	6%	38%	22%	25%	3%
<b>Residential</b>	3%	2%	4%	10%	12%	28%	37%	4%

Billing statements that are easy to understand and provide useful information

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	0%	3%	6%	3%	22%	40%	26%	0%
<b>Residential</b>	1%	2%	5%	9%	15%	20%	47%	1%

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Responding to customer inquiries promptly and efficiently

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	3%	0	3%	9%	36%	24%	19%	6%
<b>Residential</b>	1%	1%	5%	8%	22%	20%	37%	6%

Offering programs and services to help customers control their energy use and the amount of their bills

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	9%	6%	9%	13%	34%	12%	13%	3%
<b>Residential</b>	not surveyed on this question							

Working hard to keep rates as low as possible

	1	2	3	4	5	6	7	Don't Know
<b>C&amp;I</b>	6%	10%	9%	21%	15%	9%	3%	26%
<b>Residential</b>	not surveyed on this question							

How many times in the past year have you lost power?

	<b>C&amp;I</b>	<b>Residential</b>
1. Once	24%	
2. Twice	32%	
3. Three times	17%	
4. Four times	3%	
5. Five times	0%	
6. Six times	6%	
7. Seven times	0%	
8. Eight times	0%	
9. Nine times	0%	
10. Ten or more times	0%	
11. None	15%	
12. Don't know	3%	

**C&I** -Thinking of your most recent contact, what was your reason for contacting the company?

	<b>C&amp;I</b>
1. Question about a bill size	14%
2. Arrange extended payment/Avoid service cutoff	0%
3. Question an estimated bill	0%
4. Check/test meter equipment	0%
5. Specific service/repair request	6%
6. Moved/Changed address	6%
7. Inquiry about a program	0%
8. Interruption of power/Problem with electricity	44%
9. No bill received	0%
10. New service installation	6%
11. General inquiry	6%
12. Other	17%
13. Don't know	0%

## AmerenUE Revised 1998 Reliability Assessment

**Residential** – Which of the following best describes your most recent contact with your electric company or its employees?

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- |  |     |
|--|-----|
| 1. I called the company with a request or problem                    | 83% |
| 2. I received a call from the company about a new program or service | 2%  |
| 3. The company called me to follow up on a problem or request        | 5%  |
| 4. The company left a note at my home                                | 0%  |
| 5. (other)   | 6%  |
| 6. (Don't know)  | 4%  |

**Residential** – Specifically, why did you contact your electric company?

- |                                      |     |
|--------------------------------------|-----|
| 1. Power Outage                      | 43% |
| 2. Question on billing               | 21% |
| 3. Credit/collection problems        | 5%  |
| 4. Question about Ameren             | 0%  |
| 5. Energy conservation               | 0%  |
| 6. Change/update account information | 5%  |
| 7. Meter/Meter reading               | 2%  |
| 8. Other                             | 25% |
| 9. Don't know                        | 0%  |

Overall, how satisfied were you with the way your inquiry or request was handled? Were you satisfied, not very satisfied, or not satisfied at all?

- |                         | <b>C&amp;I</b> | <b>Residential</b> |
|-------------------------|----------------|--------------------|
| 1. Very satisfied       | 64%            | 57%                |
| 2. Somewhat satisfied   | 24%            | 29%                |
| 3. Not very satisfied   | 6%             | 2%                 |
| 4. Not satisfied at all | 6%             | 12%                |
| 5. Don't know           | 0%             | 0%                 |

**AmerenUE Revised 1998 Reliability Assessment****Attachment B – Distribution and Transmission Plant**

Listed below is the distribution and transmission report listing the age of the facilities, the ratio of the expenditures to investment and the average remaining depreciation lives of the facilities expressed as a percentage of total depreciation lives.

**AmerenUE Illinois Transmission Plant**

<b><u>Description</u></b>	<b><u>Average Age (1)</u></b>	<b><u>Remaining Depreciable Life</u></b>	<b><u>Total Depreciation</u></b>	<b><u>(A) %</u></b>
Land and Land Rights	(3)	(2)		
Substation Structures	(3)	(3)		
Substation Equipment	27.8	22.2	50.0	44.40%
Towers and Fixtures	31.0	19.0	50.0	38.00%
Poles and Fixtures	28.2	14.8	43.0	34.42%
Overhead Conductor and Devices	24.1	35.9	60.0	59.83%
Roads and Trails	85.5	49.5	135.0	36.67%

Total Plant In-Service (12/31/98) \$61,770,414.83

(A) - Percentage of average remaining depreciation lives to total depreciation lives.

**AmerenUE Illinois Distribution Plant**

<b><u>Description</u></b>	<b><u>Average Age (1)</u></b>	<b><u>Remaining Depreciable Life</u></b>	<b><u>Total Depreciation</u></b>	<b><u>(A) %</u></b>
Land and Land Rights	25.6	(4)	25.6	100.00%
Substation Structures	33.8	27.2	61.0	44.59%
Substation Equipment	24.8	19.2	44.0	43.64%
Poles and Fixtures	18.0	16.0	34.0	47.06%
Overhead Conductor and Devices	16.2	19.8	36.0	55.00%
Conduit	27.0	57.0	84.0	67.86%
Underground Conductor and Devices	16.2	28.8	45.0	64.00%
Transformers	30.9	9.1	40.0	22.75%
Services - Overhead	18.0	18.0	36.0	50.00%
Services - Underground	10.5	34.5	45.0	76.67%
Meters	17.6	18.4	36.0	51.11%
Installations on Customer Premises	25.2	20.8	46.0	45.22%
Street Lighting and Signaling	11.9	11.1	23.0	48.26%

Total Plant In-Service (12/31/98) \$138,738,681.33

(A) - Percentage of average remaining depreciation lives to total depreciation lives.

- (1) The average of age of facilities was determined by using aged plant-in-service balances at 12/31/98 and was calculated using the Gannett Fleming Depreciation Programs.
- (2) Transmission land is not depreciated & land rights are amortized at a rate of 1% per year.
- (3) The average age is not available for Illinois Transmission Land and Structures.
- (4) Distribution land is not depreciated.

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1998 Transmission Expenditures	\$6,663,000
Transmission Investment	\$61,770,414
Ratio of Transmission Expenditures/Transmission Investment	0.11
1998 Distribution Expenditures	\$8,743,000
Distribution Investment	\$138,738,681
Ratio of Distribution Expenditures/Distribution Investment	0.06

**Attachment C – Operating Area Qualitative Assessment**

The transmission and distribution system in the AmerenUE consists of overhead and underground facilities located in both urban and semi-rural areas. The majority of the facilities are located in urban areas. These facilities are inspected and maintained on a regular basis. The general terrain is flat with some hills. Based on the routine visual inspections indicating the physical condition of the facilities and the reliability indices indicating the quantity and causes of the electrical interruptions, the transmission and distribution facilities in this operating area are considered to be in good condition.